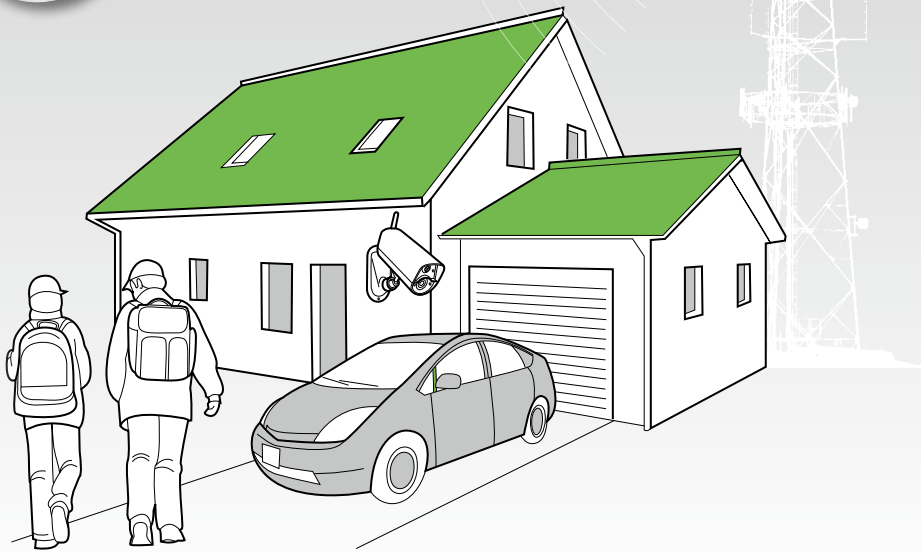
GSM Security Camera

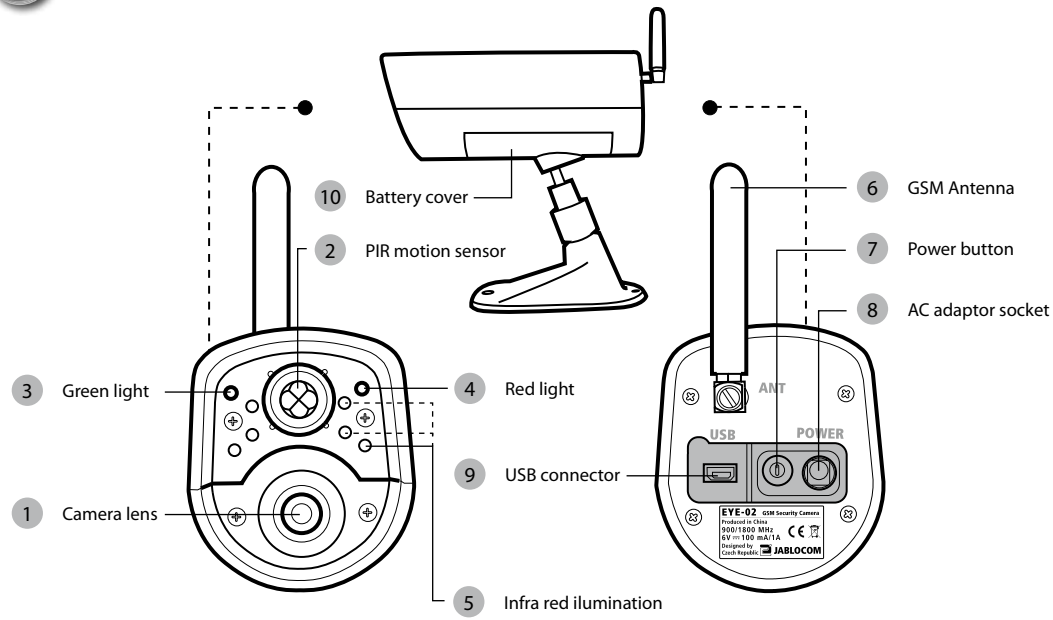
EYE-02

Watch your Life Anytime from Anywhere

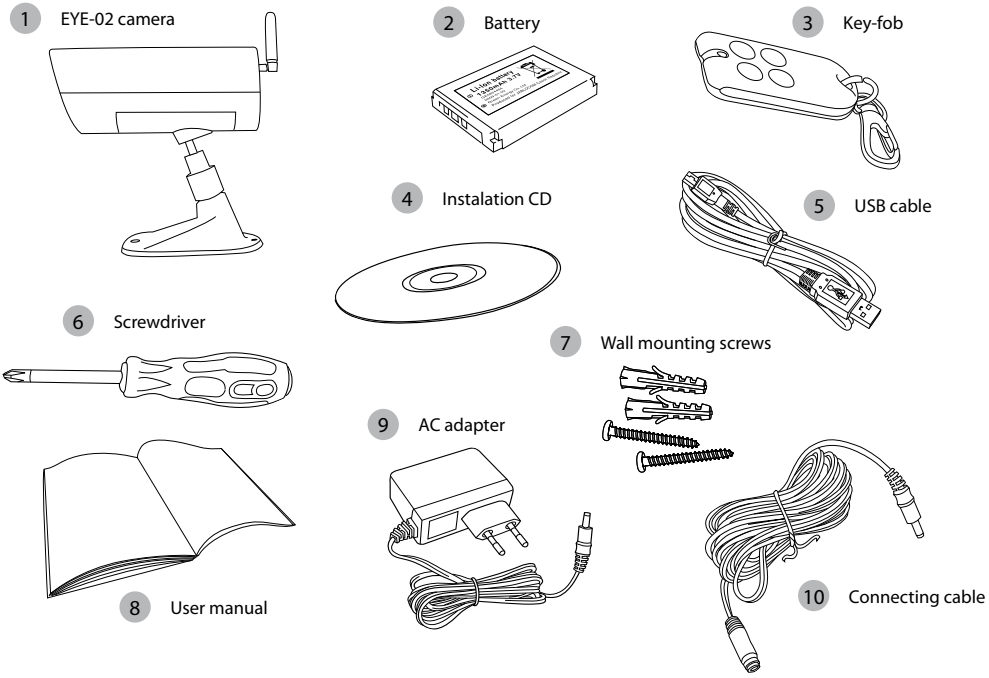


JABLOCOM

A Camera EYE-02:



B Package content:



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1. EYE-02 CAMERA - INTRODUCTION

1.1 BASIC FEATURES

EYE-02 is a security and monitoring camera which communicates wirelessly via the GSM network.
EYE-02 integrates the following group of built-in detectors which allows the user to detect an intruder :

PIR motion detector	Detects movement by sensitive detection of human body temperature
Noice detector	Microphone detects a noise above a defined level
Glass-break detector	Recognizes the specific sound of breaking window glass
Tilt and vibration detector	Recognizes any unwanted change in the camera´s position and angle
Motion-in-Picture detector	Detects changes in scene by taking snapshots regularly and comparing them

- ❖ EYE-02 is simple to install and configure (suitable for DIY installations)
- ❖ EYE-02 sends an alarm record via MMS, e-mail, SMS or voice call. The copies of pictures and videos can be stored on the memory card or can be stored at a web server. Automatic Receiving Centers are supported.
- ❖ EYE-02 allows 24 hour monitoring via its night view mode
- ❖ EYE-02 is compatible with a wide range of external wireless devices (refer to the table on the inside back cover of this manual)

1.2 EYE-02 CAMERA DESCRIPTION

Please refer to the picture **A** on the inside front cover of this manual.

1	Camera lens	6	GSM Antenna
2	PIR motion sensor	7	Power button
3	Green light (LED)	8	AC adaptor socket
4	Red light (LED)	9	USB connector
5	Infra red illumination (LEDs)	10	Battery cover

1.3 EYE-02 CAMERA INTERNAL PARTS

Please refer to the EYE-02 camera picture **D** on the back cover of this manual.

1	Dual band GMS antenna	7	Microphone + digital signal processing • Acoustic noise and voice detection • Glass-break detection
2	EDGE/GSM module - Picture transfer to mobile phones via MMS or e-mail - Data connection to monitoring servers and CMS	8	Short range radio • Free band 868 MHz • Allows cooperation with remote controllers • Possible extension with JABLOTRON professional wireless security system
3	Buzzer • Built-in acoustic indicator	9	Tilt and position detector • Protects against intruder manipulation with camera
4	Li-Ion battery • Provides back-up energy during electricity failure	10	Infrared reflector • Illuminates the scene by non-visible beams for camera night vision
5	SD memory card • Extends memory capacity up to 4 GB	11	PIR infrared sensor • Excellent sensitivity for human body detection
6	SIM holder • For standard GSM SIM card	12	VGA camera • CMOS chip with2.9 mm lens

2. CAMERA INSTALLATION

Before installing the camera, ensure you have a SIM card provided by your GSM operator, and activate the EDGE/GPRS internet connection and the MMS service for this card.
Some SIM cards are protected by PIN code - it is necessary to disable the PIN code protection of the SIM card. To do this, insert the SIM into your mobile phone and disable the PIN code security code. If this is not observed, the EYE-02 camera may not operate correctly.

2.1 PACKAGE CONTENTS

Unpack the camera and check the package contents. Please refer to the picture **B** on inside front cover of this manual.

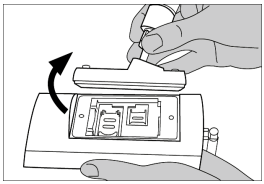
1	Camera	**6**	Power cable extension
2	Battery	**7**	CD
3	Remote control	**8**	User Manual and Quick Guide
4	Power adaptor	**9**	Dowels and screws
5	USB cable	**10**	Screwdriver

Use only batteries, chargers and accessories approved by JABLOCOM for use with this particular model. The use of any unapproved device may invalidate any approval or warranty, and may be dangerous.

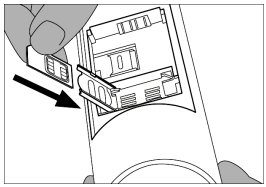
2.2 INSTALLATION

For an extended graphic version of the installation procedure, see the Quick Guide manual.

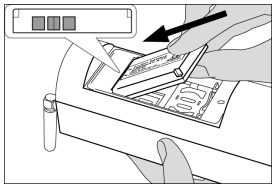
▶ Insert SIM card and battery into camera



Unscrew and open the battery cover.

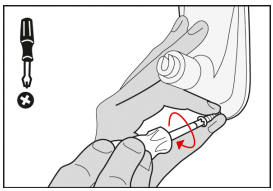


Insert the SIM card.

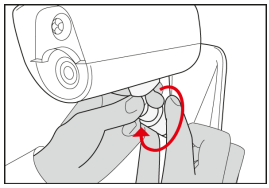


Insert battery and screw cover back.

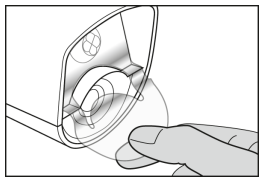
▶ Install the camera to the selected position



Mark and drill-out the fixing holes on wall. Mount the camera holder firmly.

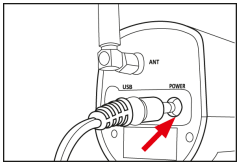


Adjust the camera position.

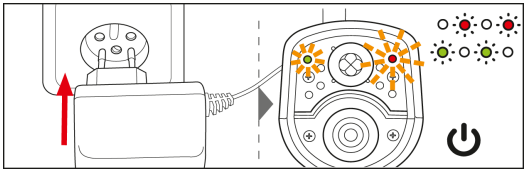


Remove lens protection.

▶ Connect camera to power source

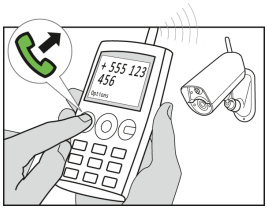


Plug the power cable to camera.

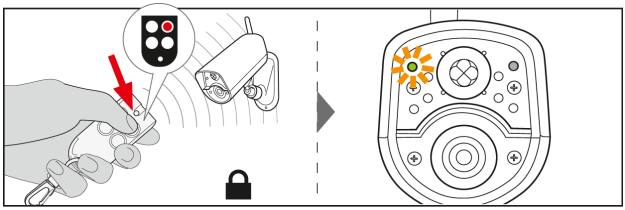


Plug the power adaptor to wall socket. The camera will automatically turn on. Wait 10 seconds and check the EYE-02 camera LED lights on the front panel.

▶ Enroll your mobile phone and remote control to the camera



Call camera number from your mobile phone.



On the remote control, press button 1 and then button B. Check if the green LED light on camera is On.

3. CAMERA FUNCTION

3.1 WORKING MODES

The EYE-02 camera has three main working modes: **SLEEP**, **WATCH** and **CONFIG**.

Mode	Description	Button on Remote Control
SLEEP	SLEEP mode is a stand-by mode of camera. The camera doesn't detect any movement in the targeted area and the major detectors are disabled. The only active detectors are those which protect camera itself against the unwanted manipulation by some intruder.	B
WATCH	In WATCH mode camera guards fully the targeted area, all detectors are active.	A
CONFIG	CONFIG mode allows the user to change camera's settings, enroll a new external device (as remote control) to cooperate with camera or enroll a new user contacts (see more details in CONFIG mode chapter)	1 and 2 together

3.2 DETECTORS

The EYE-02 camera integrates a wide range of detectors. This sophisticated solution of combining various types of detectors enables the user to protect the desired area from a wide range of threats.
This chapter briefly describes individual detector's principles necessary for correct setting of detection.

▶ PIR MOTION DETECTOR (PIR)

PIR detector (**P**assive **I**nfra**R**ed sensor) or a Human Body Detector is the most common type of professional security systems detectors. PIR can detect even very small changes of temperature differences in front of the camera.

▶ MOTION-IN-PICTURE DETECTOR (MIP)

The key principle of this detector is derived from a professional surveillance camera system – DSP (digital signal processor). It permanently analyzes the scene and detects any change in the picture.
A sophisticated digital algorithm provides an excellent resistance to false alarms caused by non-essential changes in pictures (getting dark, switching on the street lamps, etc).
The user can simply mask-out (hide) a part of a picture in order not to detect changes in this part (mask of the street traffic, etc.) and set the sensitivity according to the size and velocity of change in the picture.
As the DSP method is energy demanding, MIP is usually activated after some alert from SOUND or PIR detector.

▶ NOISE DETECTOR (NOICE)

Noise detector uses a microphone to check the surrounding area for any sound above the preset level.

▶ GLASS-BREAK DETECTOR (GBS)

Glass-break detector uses digital analysis of sound from the microphone and is able to detect a characteristic sound of the breaking of a window up to 9 meters away.
The Door-Opening-Detection is a special type of detection which uses the acoustic signal filtering. It allows the detection of the infrasonic wave (pressure wave) caused by door or window opening.
GBS sensor can be used for indoor installations only.

▶ TILT AND VIBRATION DETECTOR (TILT)

Built-in tilt and vibration detector can detect a tampering or unwanted manipulation of the camera.

Example: Stealing the camera body or changing camera position.

As vibration detectors are very sensitive, it should not be use for outdoor installation to prevent the false alarms caused by the wind gusts.

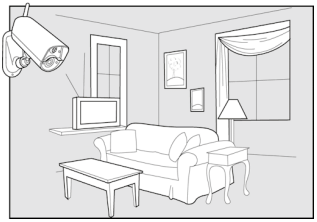
The detectors are optimized for application in rooms with max distance up-to 10 meters.

3.3 PROFILES

The EYE-02 camera allows fast and simple setting of all necessary detector parameters by selecting one of the pre-defined PROFILEs. These profiles are suitable for most camera applications. If necessary, the profile may be further adjusted by the user.

▶ HOME

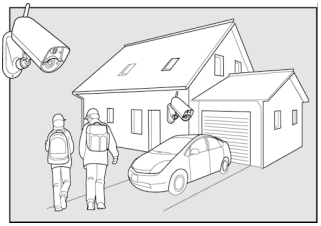
HOME profile has been designed for camera installation inside a building (house, flat, office). During WATCH mode, there are no movements of people, no wind drafts, no significant temperature changes, or loud noises etc. expected.



▶ OUTDOOR

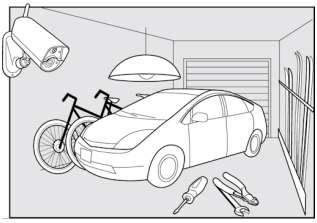
OUTDOOR profile fits best camera installation outside your home.
The camera significantly reduces its detectors' sensitivity in OUTDOOR as there are many possible sources which could cause a false alarm triggering (sunshine, animals, street noise, wind, etc.).

Although the camera housing comes with a basic water protection, we strictly recommend placing the camera into a plastic cover to protect it against the rain and wind once it is installed outdoor.



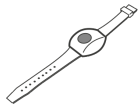
▶ GARAGE

This profile is suitable for installation inside your garage. It is similar to the HOME profile. Additionally, the GARAGE profile provides a 30-second entrance delay. It allows you to open the garage or home entrance door first and switch the camera to SLEEP during this delay.

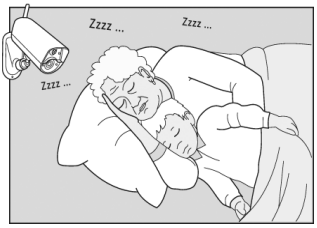


▶ CARE

Profile CARE has been especially designed for monitoring small children and elderly or disabled people.
The camera used in CARE profile allows the user to leave their home, stay in a short distance away from the home and watch their sleeping baby or ill grandmother etc. at the same time.
The camera is activated by movement, by sound (i.e. baby crying) or by a PANIC alarm (triggered by a personal wrist button).



The internal acoustic camera signals are disabled in the CARE profile. Also TILT detector is blocked to allow the camera manipulation.



▶ SHOP

The most powerful profile is SHOP. In this mode, all detectors are active, including the permanent process of "Motion in Picture" detection. This profile offers the highest quality of permanent monitoring; consequently it is the highest energy consumption profile.
This profile perfectly fits places requiring the whole day monitoring and full protection during the night time, such as shops, office corridors and reception areas, etc.

3.4 REPORTS

The EYE-02 camera can report events to mobile phones (via voice call, text message, MMS) or to e-mail addresses. Up to 10 different phone numbers and 10 e-mail addresses can be saved to the camera list.

To set the contacts, use the JabloTool software, Contacts menu (see chapter 4).

Each stored contact can have its own report level set. Three levels (High, Middle, and Low) indicate how many events should be reported to the contact. Low level reported contacts will receive ALARMS only, Middle and High level contacts will receive additional reports for specific events.

JabloTool also allows a user to block some of the reporting channels (calls, SMS, MMS) by checking-off the appropriate check-box on the contact line.

New contacts may also be added via an SMS command (see chapter 4.4, CONFIG commands) or by calling the EYE-02 camera directly from a new phone number while the camera is in the **CONFIG** mode. If there are no phones saved in the contact list (after installing a new EYE-02 camera or after using the factory reset function), the camera switches automatically to **CONFIG** mode and waits for an incoming call.

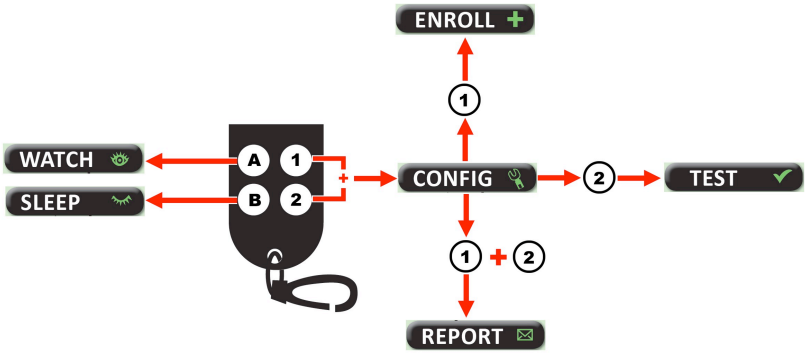
CONFIG CONTACT <contact>	where <contact> means the phone number or e-mail address Example: *CONFIG CONTACT +48555789456* *CONFIG CONTACT email@hotmail.com*

Camera sends e-mail with reply address noreply@jablocom.com. Please check your e-mail client SPAM filter to accept emails from this address.

3.5 REMOTE CONTROL

The package contains a wireless remote control (RC-86 type), which can be used to switch between camera modes – see chapter 3-1.

Change of the mode via the remote control is signaled both by the LED lights on the camera front panel, and by an acoustic signal. The significance of the LEDs and acoustic signals is as follows:



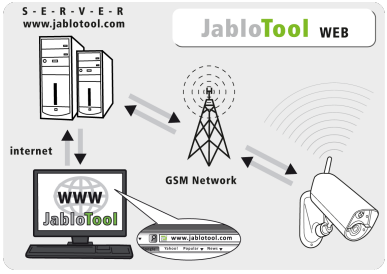
Camera Mode	LED lights signaling		Acoustic signal
WATCH	Lights are Off.	○ ○	One long beep
SLEEP	Green light is permanently On.	● ○	Two long beeps
CONFIG	Red and Green lights blink slowly together.	● ○ ● ○ ● ○ ● ○	Three long beeps
ENROLL	Red and Green lights swap blinks slowly.	● ○ ● ○ ○ ● ○ ●	- -
ERROR	Red light is permanently On.	○ ●	Four short beeps

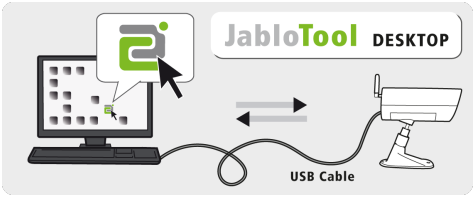
4. CAMERA CONFIGURATION

4.1 SET-UP AND CONFIGURATION VIA PC

The most convenient way to set-up the EYE-02 camera and configure its parameters is by a PC and the JabloTool software.

The JabloTool is available as the internet web server at www.jablotool.com though the Microsoft Internet Explorer (the **JABLOTOOL WEB** version), or it is available as the standard software on the installation CD (the **JABLOTOOL DESKTOP** version) included in the camera package.



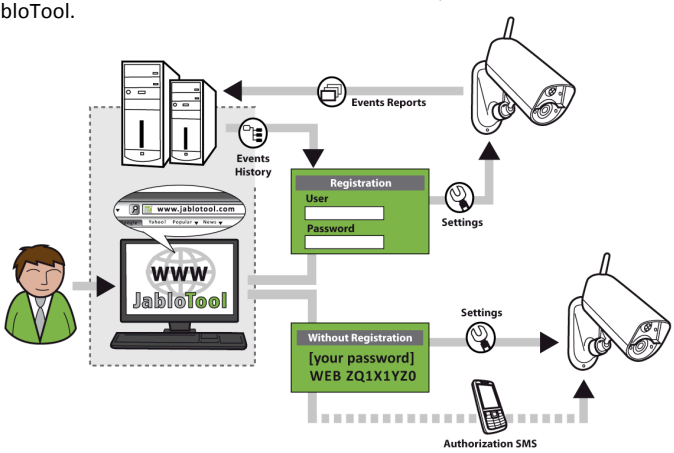


Function of both JabloTool versions are the same, the only difference is in the method of connection to the camera - the JABLOTOOL WEB requires a connection to the internet and establishes a cable-free connection with the camera, the JABLOTOOL DESKTOP interconnects the camera with the PC by the USB cable. The advantage of USB connection is faster data transfer from the camera.

▶ JABLOTOOL WEB server

JabloTool WEB is a service at www.jablotool.com and it is provided for free for registered users.

User accessing the EYE-02 camera trough the JabloTool WEB will be guided to establish the connection to camera. If user is not registered or if the EYE-02 camera is not protected by Remote Access Password, user has to send a special SMS authorization command from his mobile phone first to initiate the EYE-02 camera connection to the JabloTool.



Authorization between the JabloTool WEB server and EYE-02 camera

▶ JABLOTOOL DESKTOP software

Load the installation CD to your computer, start the "**INSTALL.EXE**" and follow the program instructions.

Do not connect the EYE-02 camera to the USB on your computer until you have finished installing the JabloTool software from the CD!

The latest version of the installation software can be download at www.jabblotool.com/download.

Turn the camera On and connect it to the computer by the USB cable. Wait until the operating system recognizes the camera. Then, click on the JabloTool icon on the desktop to load the program and follow all instruction on the screen.

The maximum length of a USB cable is usually 5 meters. If your EYE-02 camera is too far, you may need to remove it temporarily from its location or bring your PC nearer.

4.2 CONFIG MODE

CONFIG mode allows the user to change the camera's settings, enroll a new external device (e.g. additional remote controls) to operate with the EYE-02 camera or enroll a new user's contact.

To open the CONFIG mode by remote control, press 1 and 2 buttons simultaneously – red and green LED lights in the front panel will start to blink slowly at once.

MODE	DESCRIPTION	COMMAND
ENROLL	In the ENROLL mode, the camera allows to enroll new external wireless devices such as the remote controls, detectors, sirens, etc. Also a new contact – phone number can be enrolled in this mode by just a simple call to camera. ENROLL mode is terminated automatically after one new items has been enrolled.	1
TEST	TEST mode is a special mode to test all detectors function without causing unwanted number of alarm reports.	2
REPORT	In the REPORT mode, the camera sends a special report of "Test of camera originated by user" to all contacts (as SMS and e-mail)	press 1 and 2 buttons simultaneously for about 4 sec
USB	This is special mode of camera in which camera activates its USB driver and behaves as a standard USB flash disk. This allows to access files on SD memory card without installation of special camera driver to PC.	Press power button on camera back panel

To protect the camera's safety the CONFIG mode and all its sub-modes will be closed automatically after a 5 minutes timeout.

4.3 SMS COMMANDS

Basic EYE-02 camera functions can be operated by the text message (SMS) commands sent to the camera. Commands are accepted only when sent from a mobile phone which is stored in the contact list.

If the EYE-02 camera is protected by the **Remote Access Password** or the **Configuration Password**, set via the JabloTool software, then each SMS must be introduced with the appropriate password.

Please note the <Remote Access Password> and <Configuration Password> are case sensitive. The rest of the text message command is case insensitive.

▶ CONTROL COMMANDS

Control commands change the camera setting. If the EYE-02 camera is protected by the **Configuration password** then each CONFIG command must be introduced with this password.

COMMAND	DESCRIPTION
WATCH	Switch EYE-02 camera to the **WATCH** mode. *Example*: *<Remote Access Password> WATCH* If the camera remote access is protected by the password MIKE then the command must be send as: *MIKE WATCH*
SLEEP	Switch EYE-02 camera to the **SLEEP** mode.
STATUS	EYE-02 camera will return a SMS indicating the current camera status. *Example*: *EYE02 status: Entrance delay, Time: 22/06/09 16:78:18*
PICTURE	The EYE-02 camera will return a multimedia message with the picture of the current scene in front of the camera.
REPORT <message type>	The EYE-02 camera sends a report of the latest events <message type> can be **SMS** or **MMS**. SMS is the default message type. *Example*: *<Remote Access Password> REPORT MMS* EYE-02 camera will send an MMS with the last event record from camera history.
CREDIT	This command is especially for the prepaid SIM cards. The EYE-02 camera will return a text message with information about current credit on your SIM card. This function is provided by your network operator and might not work correctly with some networks.
HELP	Camera will return a text message with a list of the SMS commands syntax.

▶ CONFIG COMMANDS

CONFIG commands change the EYE-02 camera settings. If the EYE-02 camera is protected by the **Configuration password** then each CONFIG command must be introduced by this password.

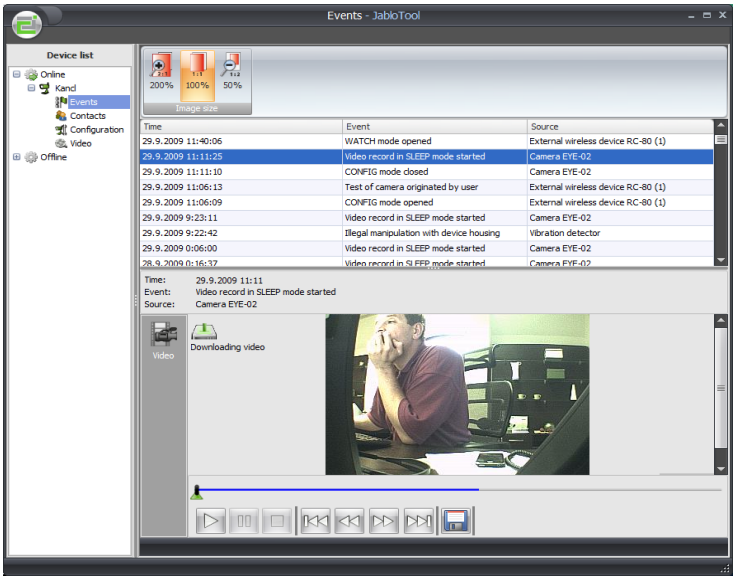
COMMAND	DESCRIPTION
CONFIG PROFILE <profile>	Profile setting, <profile> is **HOME**, **OUTDOOR**, **GARAGE**, **SHOP** or **CARE** *Example:* CONFIG PROFILE SHOP *Camera will switch to profile SHOP* *Example*: *<Configuration Password> CONFIG PROFILE HOME* Camera will switch to profile HOME
CONFIG CONTACT	Add a new contact. *Example:* CONFIG CONTACT MyEmail@domain.com *The e-mail address myemail@domain.com will be added to the EYE-02 camera contact list, the ALARM reports will be sent to this e-mail address*

	including the video records. *Example:* <Configuration Password> CONFIG CONTACT +420774770123 The phone number +420 774 770 123 will be added to the EYE-02 camera contact list, the ALARM reports will be sent to this e-mail address including the video records
CONFIG LANG <language>	Change the EYE-02 camera language settings. Check your camera production settings to get a list of supported languages. *Example*: *CONFIG LANG GER* changes the default language to German.
CONFIG DELAY <time>	Change the Exit delay timer setting, <time> is time in seconds *Example*: *CONFIG DELAY 25* sets the exit delay to 25 seconds
CONFIG POWER <mode>	Change of power mode, <mode> can be **NORMAL** or **BATTERY** *Example*: *CONFIG POWER BATTERY* changes power mode to ***BATTERY*** mode
CONFIG DATE	Set date and time in format YYYY-MM-DD HH:MM:SS *Example*: *CONFIG DATE 2009-10-24 08:34:02*

4.4 EVENT REPORTS

Every event detected by the EYE-02 camera is recorded into the camera's memory.
The event record consists of the date and time mark, detail description of the event (including its source) and a video record.

Example of Events history viewed by the JabloTool software:

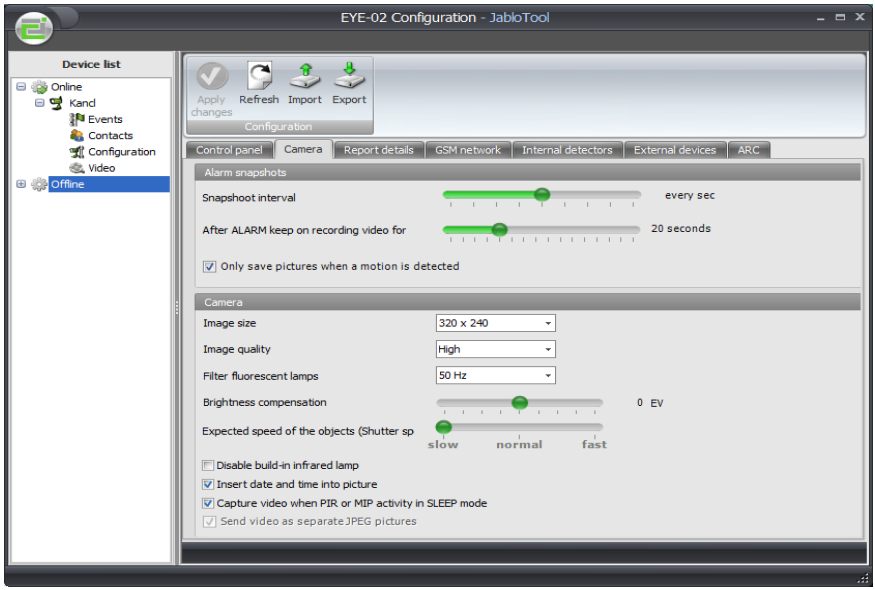

Events - JabloTool
Device list
Online
Kancl
Events
Contacts
Configuration
Video
Offline
200%
100%
50%
Image size
Time
Event
Source
29.9.2009 11:40:06 WATCH mode opened External wireless device RC-80 (1)
29.9.2009 11:11:25 Video record in SLEEP mode started Camera EYE-02
29.9.2009 11:11:10 CONFIG mode closed Camera EYE-02
29.9.2009 11:06:13 Test of camera originated by user External wireless device RC-80 (1)
29.9.2009 11:06:09 CONFIG mode opened External wireless device RC-80 (1)
29.9.2009 9:23:11 Video record in SLEEP mode started Camera EYE-02
29.9.2009 9:22:42 Illegal manipulation with device housing Vibration detector
29.9.2009 0:06:00 Video record in SLEEP mode started Camera EYE-02
Time: 29.9.2009 11:11
Event: Video record in SLEEP mode started
Source: Camera EYE-02
Video
Downloading video

There are many types of event records. The most important are the ALARM reports which are immediately reported to the contacts from the contact list. Other types of records are the ALERT records (similar to ALARM but ALERTs are not reported to the contacts) or some technical reports (Example: information about the AC power failure).

4.5 VIDEO RECORD SETTING

The EYE-02 camera allows detail setting of all important parameters to collect video record under many conditions.

Parameter	Settings	Description
Snapshoot rate	from 20 frames per sec, to 1 frame every 30sec	The frequency of snapshots. The higher frequency increases the video record file size.
After ALARM keep on recording video for	(0 sec, 5sec, 10sec ,... 2 min, 5 min, 10 min)	Camera keeps video recording for some time period after ALARM.
Only save pictures when motion is detected	Next snapshoot (frame) will be saved to video record file only if there has been detected the change compare to previous snapshoot. If the pictures are almost the same it will not be stored. This setting SIGNIFICANTLY reduce the video file size	
Image size	160x120, 320x240, 640x480 pixels	Image resolution in pixels. Higher resolution increase the quality of recorded pictures but it also increase the size of video files and lengthen the time for transfer it via GSM network.
Image quality	5 levels of JPEG compression	Level of JPEG compression. Higher compression reduce the file size and slightly decrease the detail resolution in picture
Filter fluorescent lamps	(OFF, 50Hz, 60Hz), default OFF	If the scene is illuminate by the standard fluorescent lamps, this will filter undesirable lamp blinks. Set the standard AC power frequency in your country
Brightness compensation	+/- 2EV, with step 0.5EV, default 0	The camera calculates the best brightness of pictures automatically. This setting allows changing the pre-set level of brightness.
Expected speed of the objects (Shutter speed)	(fast, normal, slow), default normal	Default setting is NORMAL. Set of FAST in case there may be some fast moving objects in front of camera (cars, running persons, etc.), SLOW is suitable mainly for door control and dark rooms.
Disable build-in infrared lamp	The internal IR lamp is automatically switched on when the lightness of scene is too low for normal camera function. This option disables the automatic function and it is mostly used if the illumination is done by external lamp.	
Insert date and time into picture	The small timestamp will be inserted into the left top corner of picture. This help to determinate exactly the time of snapshoot.	
Capture video when PIR or MIP activity in SLEEP mode	The video recording continues also in SLEEP mode if there is some activity detected in front of camera. This is well usable for shops, petrol stations and other place where permanent watching is required	
Send video as separate JPEG pictures	JPG pictures will be send by e-mail and MMS instead of AVI video files – use this option in case your mobile phone or PC do not support AVI video files	

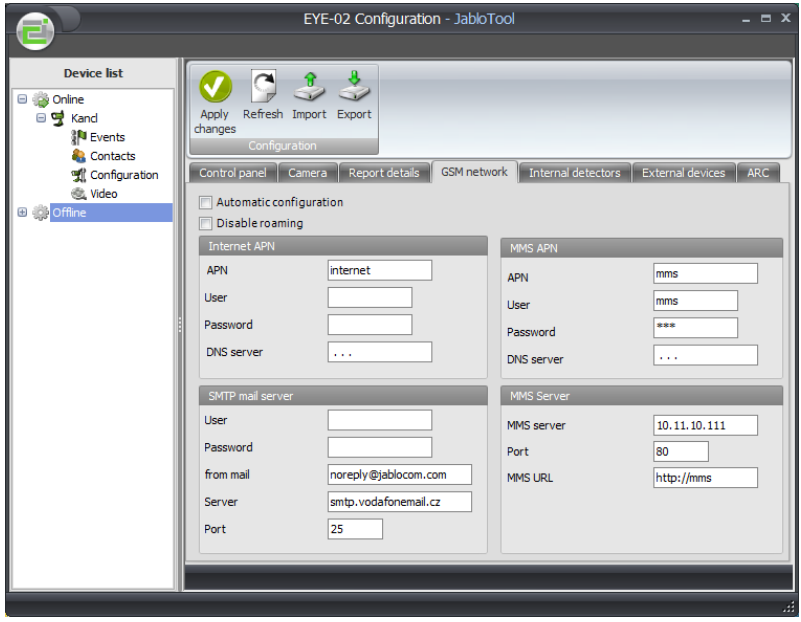


4.6 GSM NETWORK SETTING

The EYE-02 camera needs the correct settings of the GSM network parameters. These parameters depend on the country where you live and the GSM network you use.

The EYE-02 camera can automatically adjust the correct setting for most GSM networks. In case there are some specific settings of your GSM network which you got from you GSM network operator, you may configure it manually in JabloTool, Device configuration, tab GSM network.

Please contact your GSM network operator for detail parameter setting.



5. OTHER FEATURES

5.1 CALL CONTROL

The EYE-02 camera provides a basic control function when it is called from a user's phone. When a phone saved in the contacts calls the EYE-02 camera, the camera answers the call and plays the basic menu navigation:

Welcome to Camera menu:

To listen to the sound from the camera microphone.....press 1,
to receive an MMS with a current picture .....press 2,
to receive an MMS with the last alarm record .....press 3,
to receive the latest events history in a text message .....press 4,
to switch the camera to the WATCH mode.....press 7,
to switch the camera into the SLEEP mode.....press 9.

The user may select the requested action by pushing the appropriate number key on the mobile phone.

5.2 NIGHT VIEW

The EYE-02 camera is equipped with a Night View function which allows take the infra-red spectrum photos (thermo-vision).

The EYE-02 camera has a built-in infra LED lamp which can illuminate the scene by non-visible infra light. Thought the human eye can't see such lights, the camera chip can collect a picture even in this spectrum.

The infra lamp illumination is activated automatically if picture taking is requested and the level of ambient light is too low.

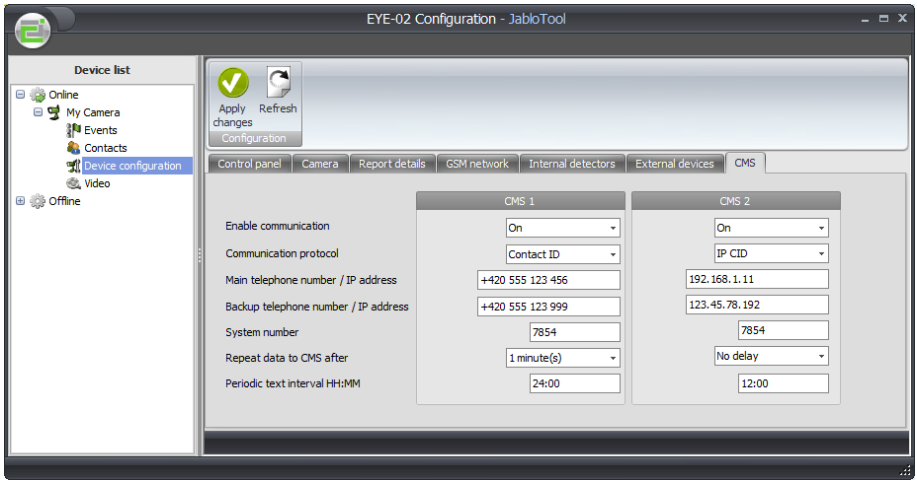
The night scene may be overexposed by IR lamp reflection from close located objects. In such case the internal IR lamp can be disabled in camera configuration and an external IR lamp can be used instead.

5.3 MONITORING

The EYE-02 camera can report all events from the system to the professional Alarm Receiving Centre - ARC (also known as Central Monitoring Station).

Refer the picture **E** on the back cover page of this manual for understanding of EYE-02 communication with commercial Security agency ARC.

The reports are done in accordance with international standard communication protocols for IP CID and SMS CID (CID – Content Inspection Director). Protocol settings will be done by authorized ARC service provider once you subscribe to their service.



JabloTool WEB can also provide monitoring function for registered users. The EYE-02 camera can send a copy of any event record to JabloTool ARC. This will dramatically speed up your access to the event list and provide the backup log of events. This function is available for FREE for users who register at www.jablotool.com.

5.4 SWITCHING OFF AND ON

To switch the EYE-02 camera OFF, first, switch it to the **CONFIG** mode (see chapt.4.3). Disconnect the power cable from the camera and press and hold the power button on the back panel for **3 seconds**. When the green light on the front panel switches off, the camera shuts down and you can release the button.

To switch the EYE-02 camera ON, press and hold the power button on the back panel of the camera. Keep holding the button until the green light on the front panel switches on. The start-up process has started and you can release the button.

The camera also starts up automatically after it is connected to the AC adaptor.

Whenever the camera is expected to be switched off for a longer period of time or for transportation, it is strictly recommended to remove the backup battery from the EYE-02 camera.

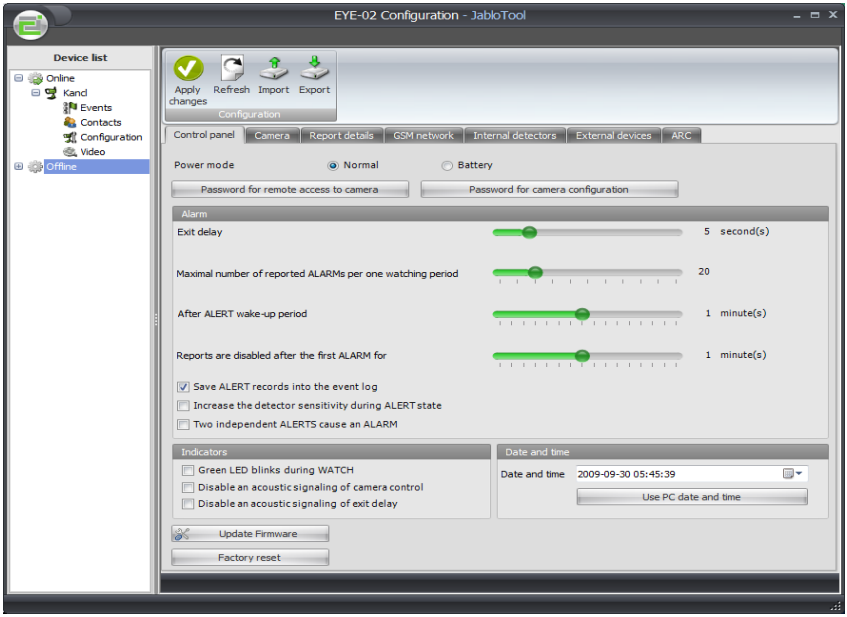
5.5 BATTERY MODE

The EYE-02 camera has an internal backup Li-Ion battery which allows it to work even in case of the loss of AC power. The backup battery allows the camera to operate for approximately **24 hours**. The individual duration of the battery may vary and depends on many factors such as the selected camera profile, number of events, quality of signal, etc.
In certain cases, for example when used in locations where AC power isn't available, it may be desired to extend the battery operation duration. In such case you may use the special **BATTERY** mode.

When in the **BATTERY** mode, the EYE-02 camera reduces dramatically its power consumption (it logs out from the GSM network, switches off the short range radio receiver and switches on the motion-in-picture detector only after ALERT). It means that the EYE-02 camera, while in the BATTERY mode, can not be reached by calls or by SMS commands. Additionally, the external detectors and remote controls can not be used.

The EYE-02 camera keeps all the internal detectors working and reports all events as in the NORMAL mode. After an ALARM, the EYE-02 camera switches on the radio and logs onto the GSM network for 2 minutes. Only during these 2 minutes does it react to calls, SMS commands and remote controls.

A fully charged battery in the **BATTERY** mode can operate the EYE-02 camera for up to 30 days.



5.6 MICRO SD CARD

The EYE-02 camera is equipped with an SDmicro memory card slot allowing further extension of the internal storage capacity. The EYE-02 Camera comes with an inserted 1 or 2GB memory card. JABLOTOOL software allows you to access the SD card as a standard flash disk (EYE-02/Advance user/Mass storage device). Other EYE-02 camera functions are blocked during PC direct access to the SD card.

When exploring the SD card, you will find the following folder structure:

HISTORY	This folder contains the files with complete (all details) log of event history. Files are stored sequentially in format "ev00001.txt".
PICTURE	Archive of static JPEG files recorded at ALARMs (For example: **"p0065401.jpg")**
VIDEO	Archive of AVI video files records the ALARMs (For example: **"vid01021.avi")**
VOICE	This folder contains the language dependent voice records for call control assistance
config.ini	The file with the current configuration of EYE-02 – can be used for backup or restore of configuration.

More than 1000 event records can be stored on the 1GB card. If the memory card is full, the oldest record of the same type is automatically erased.

5.7 RESET TO FACTORY DEFAULTS

If necessary the EYE-02 camera can be RESET to the factory default settings follow this guide:

WARNING: ALL USER SETTINGS AND CONTACTS WILL BE DELETED!

- Switch the camera off
- Press and hold the POWER button on the back panel of the camera
- Connect the AC adaptor while holding the POWER button for another 6 seconds
- Wait until the green and red lights blink together
- Release the POWER button
- All settings and external devices have been deleted – the EYE-02 camera has switched to the **CONFIG** mode and is waiting for the enrolling of the remote control and basic contact settings

5.8 EXTERNAL WIRELESS DEVICES

The EYE-02 camera has a built-in short range radio transceiver which allows communication with a wide range of professional security wireless devices produced by JABLOTRON ALARMS (see www.jablotron.com).

This is a very simple way to extend your camera function to provide additional services such as:
- heating control by mobile phone
- PANIC button function for elderly or disabled people.

Refer to the table on the inside back cover page of this manual for brief review of available types of wireless devices.

5.9 OUTDOOR INSTALLATION

Although the EYE-02 camera housing provides a basic water resistance, it is strongly recommended to use an additional plastic housing when mounted outdoors.

Please visit the www.jablocom.com web page to download the detail application notes about outdoor installation or usage with a solar power panel.

6. MAINTENANCE

The EYE-02 camera doesn't require any special maintenance.

- At least once in a month, check the event reporting function by means of the REPORT command.
- Regularly test the basic function of all detectors by the TEST mode.
- Regularly test the battery of the remote control by pressing any button. If the light on your remote does not switch on, the battery is discharged and should be replaced. Replace the battery with a new one of same or equivalent type.
- Once in a year, check the battery capacity – see chapter 8.1 Battery Information.

7. TROUBLESHOOTING

JABLOCOM will periodically release new versions of the EYE-02 camera software as well as the JabloTool software. Visit www.jablocom.com to find the latest version of the EYE-02 camera firmware, supporting software and detailed guide to troubleshooting.

Problem / Error message	Solution
RED light on the front camera panel blinks	• Your SIM card is out-of-service or blocked by a PIN code – remove the SIM card form the camera, put it into your GSM phone and try to make a call and send an SMS. If PIN protected please remove the PIN or set it to default network value. • Your SIM card isn't placed in the SIM holder correctly, or the camera doesn't support your SIM card type. Check if the SIM card is placed in the holder correctly or contact your GSM service provider. • Camera location is not covered by GSM network signal - check the quality of GSM network signal directly at the place of camera installation: place your mobile phone close to the camera, wait a few seconds and read the signal strength from your phone display. If signal is too low you might try to replace original camera GSM antenna by another approved type of GSM antenna with higher gain.
The EYE-02 camera doesn't react to remote control button	• Flat battery in your remote control – press a button and check if the light on your control goes on. If not, replace the remote control internal battery. • The remote control has been accidently deleted from the EYE-02 camera configuration - use PC with JabloTool software, open the ENROLL mode and press any button of your remote control to enroll it to the EYE-02 camera

If you discover abnormal EYE-02 camera behavior, please try to update EYE-02 camera firmware to the latest version. To do this, use JabloTool, Configuration, Control panel, Firmware upgrade.

8. TECHNICAL SPECIFICATION

Camera dimension	155x75x55 mm, 300 g
Package dimensions	300x215x75 mm, 950 g
Extended memory capacity	SD micro card slot, maximum capacity 4 GB Standard Package includes 1GB SD memory card
Image resolution	VGA (640x480), QVGA (320x240), QQVGA (160x120)
Picture format	JPEG, EXIF 2.2
Video format	MJPEG
Lens	AB29, view angle 95°, optionally: AB20 (138°), Long AB46 (58°)
Infra reflector	6x Infra LED, 6x 100mW, wavelength 850nm, emitting angle 80°
MMS support	MMS version 1.2 over WAP 2.0
Events history	min 100 records in an internal memory + extension to SD card
Operating temperature	-20°C to +55°C; 25 to 75 % humidity
Housing protection	IP 62W
AC power adaptor	100 - 240 V AC, 50 to 60 Hz, 5 V/2 A DC
Back-up battery	Li-Ion battery, 1300 mAh
GSM system	Quad band 850/900/1800/1900 MHz
GSM antenna	External GSM antenna +2.5 dBi, SMA connector
Data connectivity	EDGE class 10; GPRS class 10: max. 85.6 kbps, CS1, CS2, CS3 and CS4,
Audio parameters	AGC and Noise reduction system, HR, FR, EFR and AMR audio codec
Audio monitoring	Built-in high sensitivity omni-directional microphone with DSP processing
PC connectivity	USB port 2.0
Internal alarm detectors	Motion-in-Picture detector PIR motion detector Acoustic noise detector Glass break detector Tilt and vibration detector
Short range radio	868 MHz, Operated according to ERC REC 70-03
Remote control type	RC-86 Alkaline battery type L1016 (6.0 V), Typical battery lifetime approx. 3 years Complies with ETSI EN 300220,EN 55022, EN 50134-2,EN50130-4, EN60950-1

8.1 BATTERY INFORMATION

The camera is powered by an AC adaptor and has a backup rechargeable battery. The battery provides power to the camera when the AC power fails. The battery may wear out after some time period. The capacity of the battery should be tested at least once a year: disconnect the AC power adaptor and measure the time until camera announces the battery low state. Replace the battery if the time is shorter than 10 hours.

Do not short-circuit the battery. Accidental short-circuiting can occur when a metallic object such as a coin, clip or pen connects the battery contacts. Short-circuiting may damage the battery or the connecting object; it may even cause a fire.

Exposing the battery to extremely cold or hot temperature will reduce the battery capacity and lifetime. Optimally, try to keep the battery at temperature between 15°C and 25°C. Device with extremely hot or cold battery may not work temporarily, even if the battery is fully charged. Battery performance is particularly limited in temperatures well below freezing.

Do not dispose the batteries into fire as they may explode. Batteries may also explode if damaged. Dispose the batteries according to local regulations – please recycle when possible and do not dispose them as household waste.

Do not dismantle or shred cells or batteries. In case of battery leak, do not allow the liquid to come in contact with the skin or eyes. In case of being contacted by such leak, flush affected place with a lot of water and seek the medical help.

Use the battery and power adaptor only for its intended purpose.

Never use any adaptor or battery that is damaged.

Your camera may become warm during charging and during normal use. The camera is designed to be powered by AC power permanently. The battery gradually decreases its capacity during its lifetime. To reach the optimal parameters the battery should be kept in an environment between 5°C and 35°C.

Never expose the battery to temperature out of the operating temperature range -20°C to +55°C. A device with a hot or cold battery may temporarily not work, even when the battery is fully charged.

A battery's performance is particularly limited in temperatures well below freezing.

8.2 WARRANTY

Hereby, JABLOCOM s.r.o., declares that this EYE-02 GSM Camera is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

The original conformity assessment document can be found at the web site www.JABLOCOM.com.

RF Exposure - Specific Absorption Rate (SAR):

This product is designed not to exceed the limits for exposure to radio waves recommended by international guidelines developed

by the independent scientific organization ICNIRP and include safety margins designed to assure the protection of all persons, regardless of age and health. The guidelines use a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit for wireless devices is 2 W/kg and the highest SAR value for this camera when tested complied with this limit.
This product is in compliance with the basic restrictions as specified in the European Council Recommendation [1999 519 EC] for the measured GSM 900, GSM 1800 and GSM 1900 standards.

Regulatory information:

This camera is only intended for use in the country in which it was sold.

Limited warranty:

Subject to the conditions of this Limited warranty JABLOCOM s.r.o. warrants this product to be free from defects in design, material and workmanship at the time of its original purchase by a customer and for a subsequent minimal warranty period under the national legislation in force. Should your product need warranty service, please return it to the dealer from whom it was purchased. The defects will be eliminated free of charge by repairing or, at our discretion, replacing it.

Warranty conditions:

If you wish to make a claim under the warranty, please return the Product with all accessories in the original packaging to your dealer. The warranty is valid only if the original receipt issued to the original purchaser by the dealer, specifying the date of purchase and the IMEI corresponding with the Product, is presented with the Product to be repaired or replaced. Plastic parts, cables or accessories of the Product must not be visibly damaged, the Product must not show marks of the contact with liquid, the warranty seal must not be broken and the fault must be described.

This warranty doesn’t cover any failure of the Product due to misuse, including but not limited to use in other than the normal and customary manner, in accordance with instructions for use and maintenance of the Product. Nor does this warranty cover any failure of the product due to accident, modification, adjustment, improper repair or acts of God.

This warranty doesn’t apply to limited-life consumable components, such as batteries or accessories. It also doesn’t apply to modules of other suppliers, such as SIM cards from the GSM provider.

The warranty provided doesn’t affect the consumer's statutory rights under applicable national legislation in force, or the consumer's rights against the dealer arising from their sales/purchase contract.

Under no circumstances shall JABLOCOM be responsible for any loss of data or income or any special, incidental, consequential or indirect damages howsoever caused.

As the product is under continuous development, JABLOCOM reserves the right to make changes and improvements to any of the products described in this document without prior notice.

Operations and some features are SIM card and/or network dependent.

8.3 SAFETY INSTRUCTIONS

Read these guidelines. Not following them may be dangerous and/or illegal.

You alone are responsible for how you use your device and any consequences of its use. Do not switch the device on wherever the use of a wireless device is prohibited or when it may cause interference or danger.

Small Children

Do not leave your device and its accessories within the reach of small children or allow them to play with it. They could hurt themselves or others, or could accidentally damage the device. Your device contains small parts with sharp edges that may cause an injury or which could become detached and create a choking hazard.

Some countries may regulate the security camera usage by special laws. Please study the possible law restrictions for certain country before installing the camera.

Interference

Your device contains a transmitter and a receiver. When it is ON, it receives and transmits RF energy. Care must be taken when using the device in close proximity to personal medical devices, such as pacemakers and hearing aids. All wireless devices are susceptible to interference, which could affect performance.

We (JABLOCOM) are not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

Your device is designed not to exceed the limits for exposure to radio waves recommended by international guidelines. These guidelines were developed by the independent scientific organization ICNIRP and include safety margins designed to assure the protection of all persons, regardless their age and health.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Pacemakers

Pacemaker manufacturers recommend that a minimum separation of 15 cm to be maintained between a mobile device and a pacemaker to avoid potential interference with the pacemaker. To achieve this use the device body in distance more than 15cm from your pacemaker.

Hearing Aids

People with hearing aids or other cochlear implants may experience interfering noises when using wireless devices or when one is nearby. The level of interference will depend on the type of hearing device and the distance from the interference source, increasing the separation between them may reduce the interference. You may also consult your hearing aid manufacturer to discuss alternatives.

Medical devices

Please consult your doctor and the device manufacturer to determine if operation of your device may interfere with the operation of your medical device.

Hospitals

The device isn't designed to be used in hospitals, clinics or health care facilities without a consultancy with the staff or medical equipment producers. This request is designed to prevent possible interference with sensitive medical equipment

Wireless devices can cause interference in aircraft.

Explosive environments

In locations with potentially explosive atmospheres, obey all posted signs to turn off wireless devices such as your device or other radio equipment.

Areas with potentially explosive atmospheres include fuelling areas, below decks on boats, fuel or chemical transfer or storage facilities, areas where the air contains chemicals or particles, such as grain, dust, or metal powders.

Blasting Caps and Areas

The device isn't recommended to be used in a blasting area or in areas posted turn off "two-way radios" or "electronic devices" to

avoid interfering with blasting operations. Observe restrictions, and follow all regulations and rules.

Do not attempt to disassemble your device or its accessories - only qualified personal may install or repair device equipment. If your device or its accessory has been submerged in water, punctured, or subjected to a severe fall, do not use it until you have taken it to be checked at an authorized service centre.
Always treat your device and its accessories with care and keep it in a clean and dust-free place.

Do not paint your device or its accessories.
Do not expose your device or its accessories to open flames or lit tobacco products.
Do not expose your device or its accessories to liquid, moisture or high humidity.
Do not drop, throw or try to bend your device or its accessories.
Do not use harsh chemicals, cleaning solvents, or aerosols to clean the device or its accessories.
Do not expose your device or its accessories to extreme temperatures, minimum -10 and maximum +55 degrees Celsius.

Battery and Charger Handling & Safety

Use only JABLOCOM approved accessories and batteries. Do not connect incompatible products or accessories. Take care not to touch or allow metal objects, such as coins or key rings, to contact or short-circuit the battery terminals.

Use the battery and power adaptor only for its intended purpose. Never use any adaptor or battery that is damaged.

The device is designed to be powered from the power adaptor. The limited capacity of the backup battery should power the device for approx. 24 hours. Your device may become warm during charging and during normal use.

Remember to make backup copies of all important data.

When connecting to any other device, read its users guide for detailed safety instructions.

8.4 DISPOSAL INFORMATION

Before disposing of the camera, render it unusable.
During liquidation of material, it is necessary to adhere to the pertinent national regulations for the disposal of waste.

All used packaging materials are ecological and may be reused or recycled. Please contribute actively to saving the environment and pay special attention to the correct liquidation and reuse of packaging materials.

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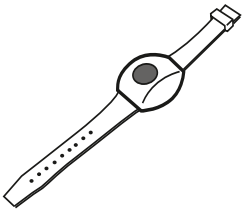
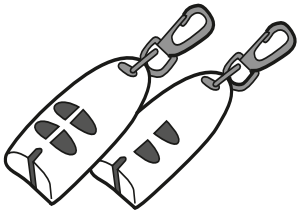
Controlers

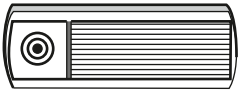
1 personal wrist button



2 key-fob



3 doorbell button

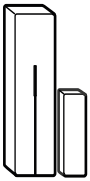


4 wall button

Detectors

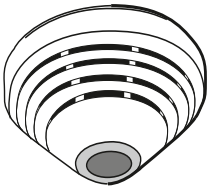
5 gas leak detector

6 door (window) opening detector



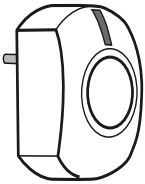
7 motion detector

8 smoke detector

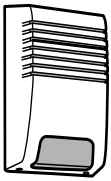


Sirens and Relays

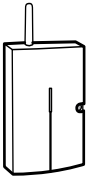
9 internal siren



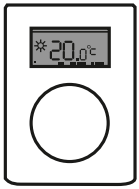
10 outdoor siren



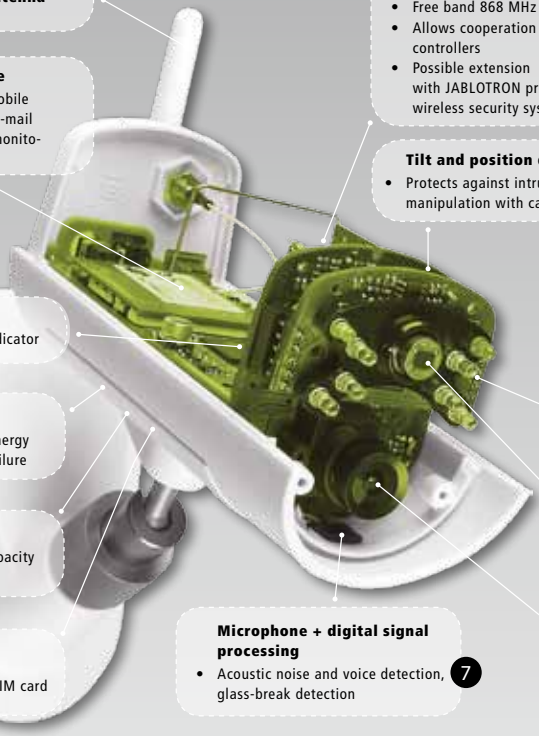
11 relay



12 thermostat



D Inside parts:



1. **Dual band GSM antenna**
2. **EDGE/GSM module**
   - Picture transfer to mobile phones via MMS or e-mail
   - Data connection to monitoring servers and CMS
3. **Buzzer**
   - Built-in acoustic indicator
4. **Li-Ion battery**
   - Provides back-up energy during electricity failure
5. **SD memory card**
   - Extends memory capacity up to 4 GB
6. **SIM holder**
   - For standard GSM SIM card
7. **Microphone + digital signal processing**
   - Acoustic noise and voice detection, glass-break detection
8. **Short range radio**
   - Free band 868 MHz
   - Allows cooperation with remote controllers
   - Possible extension with JABLOTRON professional wireless security system
9. **Tilt and position detector**
   - Protects against intruder manipulation with camera
10. **Infrared reflector**
    - Illuminates the scene by non-visible beams for camera night vision
11. **PIR infrared sensor**
    - Excellent sensitivity for human body detection
12. **VGA camera**
    - CMOS chip with 2.9 mm lens

E Security: